

Section 09801 - Mineral Coating for Masonry Surfaces

PART 1- GENERAL

1.00 DESCRIPTION

This specification describes installation of Mineral coating for masonry and masonry patch surfaces.

1.01 GENERAL

1. Whenever the words approved by, equivalent, or similar phrases are used in this specification, they shall be understood to mean that the material, process, or item referred to shall require the written approval of the Specifier and the coating manufacturer.
2. This specification shall be read in conjunction with project specifications and/or drawings indicating the precise extent of work and the use and location of specific materials.

1.02 WORK INCLUDED

1. Provide all labor, materials, equipment and services necessary to complete the following Mineral coating application work:
 - a. Preparation of all surfaces to receive Mineral coating. (Refer to Section 4901 Masonry Restoration with regard to cleaning and repair prior to Mineral coating.)
 - b. Protection of surfaces not to be treated, using polyethylene sheets or removable masking agent.
 - c. Application of Mineral coating materials by roller, brush or airless spray. Application procedures and coverage rates to be employed in application of the treatment are dependent upon the condition of the substrate and the results of testing conducted at the jobsite prior to beginning general application.

1.03 RELATED WORK

Refer to specifications covering the following related work items:

- (a) Repairs and cleaning of masonry surfaces. Section 04901.
- (b) Repairs to expansion joints and application of joint sealants. Section 07900.

1.04 WEATHER CONDITIONS

- (a) The installation of, as well as the subsequent curing of all Mineral coating work shall be governed by the following:
 - a. No work shall commence if precipitation is expected within 8 hours. In case of unexpected precipitation, work shall cease immediately and all uncured work shall be covered with polyethylene tarps.
 - b. Normal Mineral coating application as outlined in this specification shall be carried out when ambient and subsurface temperatures during application and ultimate cure fall between 40 degrees F (4 degrees C) and 90 degrees F (32 degrees C), and when temperature is a minimum of 5 degrees F (3 degrees C) above the dew point.
 - c. If ambient or subsurface temperature is expected to rise above 90 degrees F (32 degrees C) during application and curing, the hot weather precautions outlined in item 3 of this section shall be followed.
 - d. If ambient or substrate temperatures are below 50 F (10 C), follow the cold weather precautions as outlined in Section 2, below.
 - e. Do not proceed with application over damp substrates. The surface should be dry to a maximum 4% moisture content; alternatively moisture content must be determined to be within the acceptable limits by performing an ASTM plastic sheet moisture test for no less than 24 hours.

2. Cold Weather Precautions

- (a) Store all materials in heated area or vehicle at 65 degrees F min. (15 C) until just prior to use.
- (b) Do not proceed with application if air temperature is below 40 F (4 C) or if ice or frost are evident on the substrate.

3. Hot Weather Precautions

- (a) Store all materials in cool area, 75 degrees F max. (24 C) until just before use.
- (b) Do not work in direct sun at temperatures above 90 degrees F (32 C).

1.05 SUPERVISION

- 1. Applicator must present certification from the Manufacturer that he is a licensed Applicator for the Mineral coating specified. Supervision of the execution of all work under this specification, to the extent deemed necessary by the Mineral coating manufacturer, shall be arranged and paid for by the Applicator in order to ensure that all work is carried out in strict accordance with this specification and is eligible for coverage under the Manufacturer's Limited Warranty Program.

1.06 TESTING AND APPROVALS

- 1. Submit manufacturer's literature, specifications, SDS, and application instructions for Mineral coating materials.
- 2. Testing will be conducted on each surface exposure in unobtrusive locations on representative surface conditions. Tests will employ the cleaning and other surface preparation techniques proposed for the overall project, followed by application of the specified treatment employing the proposed application procedures and equipment. General application shall not proceed until test areas are approved by the owner's representative.

1.07 Limited Warranty

- 1. Applicator shall be required to present a validated Certificate of Limited Warranty from the coating manufacturer, covering all defects in materials and materials performance for the five-year period following installation. Applicator shall be required to execute the workmanship section of the warranty, providing five years replacement of defective workmanship.
- 2. Warranty shall not include damages due to abuse, construction operations, structural settling or other latent defect in building design or construction, natural disasters such as earthquake or hurricane, or catastrophic events such as fire. Warranty shall include repair or replacement at no charge to Owner of any materials which lose effectiveness or adhesion during the five-year limited warranty period.

PART 2 MATERIALS

2.00 DESCRIPTION

This specification describes the materials used in, and in conjunction with Mineral coating treatment.

2.01 CLEANING MATERIALS:

- A. Cleaning products shall be non-ionic, detergent-based masonry building wash. Material shall be non-corrosive, non-toxic, and water soluble.
 - 1. Products: The following shall be assumed to meet the quality and performance requirements specified:
- B. "E-Wash 30", by Edison Coatings, Inc., Plainville, CT, (860)-747-2220 or approved equal.

2.02 MINERAL COATING PERFORMANCE

- 1. All Mineral coating and surface repair materials shall be produced by a single manufacturer, and shall be eligible for coverage under the Manufacturer's 5-Year Limited Warranty program. All materials shall be delivered to jobsite in unopened containers bearing manufacturers' original labels and markings. Mineral coating shall perform as specified in Section 2.3, and shall provide effective reduction in substrate water absorption, ability to withstand high moisture exposure without softening or blistering, shall provide high moisture vapor permeability as compared with untreated substrates, shall develop a high direct tensile bond strength, shall not support or permit the growth of mildew or algae, and shall be resistant to abrasion and weathering without cracking, peeling, flaking or excessive color change.
- 2. The Mineral coating shall be a pigmented, one component proprietary potassium silicate-based product formulated for application to vertical and overhead mineral-based surfaces, and shall comply with local VOC regulations.

2.03 ACCEPTABLE PRODUCTS AND MANUFACTURERS:

- a. Mineral coating:
EverKote 300 Patinar, as manufactured by Edison Coatings, Inc., Plainville, CT (860)747-2220.
- b. Crack filler and Surface Repair Mortar:
Custom System 45, as manufactured by Edison Coatings, Inc., Plainville, CT (860)747- 2220.
- c. Surface Texturing Treatment (where required)
EXPO 43, as manufactured by Edison Coatings, Inc., Plainville, CT (860)747-2220.

2.1 SUBSTITUTIONS

No submittals for substitutions will be accepted after the bid date. All submittals must be made in writing to the engineer with supporting technical data sheets and test data showing complete equivalent performance.

2.2 Packaging/Coverage/Estimating

1. Packaging
EverKote 300 is factory tinted and is available in 5 U.S.gallon/18.9 Liter pails, shipped 36 per pallet, stretch-wrapped.
2. Nominal Coverage/Estimating
1 U.S. gallon covers approximately 150-200 Ft²/Coat, 1 Liter covers 3.6-5 M² /Coat
Note: Coverage rate depends on surface texture and porosity of the substrate.
3. Storage:
Store tightly closed containers between 40°-80° F./4°-27° C. EverKote 300 is a water based product, do not allow to freeze. Shelf life is minimum one year from date of manufacture. Mechanically stir material prior to application as instructed by the manufacturer. Observe all safety and handling information as shown on the Safety Data Sheets supplied by the Manufacturer.
4. Colors
EverKote 300 is available in a wide variety of custom colors. Note that typical lead times are 5-10 business days for custom orders, plus transit.

2.3 Engineering Properties

The following engineering properties shall be typical of material performance when tested under laboratory conditions at 72°F (22.2°C).

A. Plastic Properties

1. V.O.C. Content: 0 gm/L; Complies with National Volatile Organic Compound Emission Standards for Architectural Coatings, Federal EPA Regulation 40 CFR Part 59
2. Solids: 60% by weight
3. Direct Tensile Bond Strength: >400 psi @ 48 hours cure
No adhesive failure; 100% cohesive failure in substrate.
4. Flexural Bond Strength: >1300 psi @ 13 days cure
No adhesive failure; 100% cohesive failure in substrate.
5. Accelerated Weathering (ASTM G53): 1000 hours, no cracking, peeling, yellowing, swelling or checking
6. Water Immersion 14 days applied to glass substrate. No blistering, peeling, or softening
7. Fire Hazard (ASTM E-84): Smoke density, fuel contribution and flame spread all under 25 (NFPA Class A)
8. Moisture Vapor Transmission (ASTM E96): 99.87%

2.4 Materials as manufactured by Edison Coatings Inc., 3 Northwest Drive Plainville, CT 06062, 860-747-2220, are considered to conform to the requirements of this specification.

PART 3: EXECUTION

3.00 DESCRIPTION

This specification describes the preparation required for various surfaces which are to receive Mineral coating, and the application of same.

3.01 GENERAL

1. Prior to the application of Mineral coating all surfaces must be prepared in accordance with this section of the specifications.
2. The result of this preparation shall render a surface clean, meaning having complete exposure of sound, rough surface without any deposits of contaminants, coatings, compounds, laitance, foreign matter or loose material which could affect the bond between the surface and Mineral coating materials.
3. Scaled or delaminated surfaces shall be repaired or resurfaced in accordance with specifications for masonry repair, Section 04901.
4. Surfaces to receive Mineral coating must be dry prior to coating.
5. All caulking, patching, crack repair materials and joint sealants should be installed prior to application of the Mineral coating. New patching materials shall have cured a minimum of 7 days prior to application and shall be through-dry. Repointing mortars shall have cured a minimum of 14 days and shall be through-dry prior to coating. For exterior applications, protect landscaping shrubs and plants from drips and splatters. EverKote 300 is not harmful to plants but will leave a powdery residue on leaves and grass when it dries.

3.02 CLEANING EXISTING MASONRY AND STONE

A. General:

1. Proceed with cleaning in an orderly manner, work from top to bottom of each staging area and from one end of each elevation to the other.
2. Use only those cleaning methods indicated for each masonry material and location.
3. Perform each cleaning method indicated in a manner which results in uniform coverage of all surfaces, including corners, moldings, interstices and which produces an even effect without streaking or damage to masonry surfaces.
4. Rinse off chemical residue and soil working upwards from bottom to top of each treated area at each stage or scaffold setting.

3.03 CRACK REPAIRS

1. All surface cracks wider than .008" (0.2mm) shall be repaired in accordance with this section of the specifications.
2. Cracks shall be grooved to a minimum ¼" wide by 1" deep groove. Flush with clean water to remove dust and debris and fill completely with Thin Fill 55. Tool patching compound to match adjacent surface profile, pressing the compound into the crack cavity to fill completely.
3. Allow sufficient curing time for all sealants to dry-through before proceeding with Mineral coating application. At least 24 hours are required.

3.04 INSTALLATION

1. Mineral coating shall be applied to dry surfaces by phenolic core roller or airless spray at a rate of 150-200 sq. ft. per gallon. Product shall be applied as evenly as possible.
2. Prior to application, mix product thoroughly using a slow speed drill (250-450 rpm) and Jiffy-type paddle. Mix for a minimum of 3 minutes, scraping the sides and bottom of the pail and blending to uniform color and texture. If product is allowed to stand for more than 30 minutes before application, re-blend before application of the remaining material. Product may be thinned, if necessary, by addition of up to 20% (1gallon per 5-gallon pail) Everkote 300 Dilution.
3. Allow the first coat to dry-through completely prior to second coat application. Through-dry coating will be seen as tough, hard material which appears to be thoroughly dry.
4. Protect all uncured surfaces from rain, dirt, traffic, and wind-blown debris for at least 24 hours after application. Cure rate is affected by temperature and other application parameters. Adjust application, curing and protection intervals to existing conditions.

3.05 CLEAN-UP

Immediately remove spills, drips and runs using clean soapy water and non-metallic scrub brushes before product dries. Clean all application equipment immediately after use. Do not allow material to dry before clean-up of applicators and spray equipment.